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IMEX — Integrated Motion of Earth eXpressed

Defensive Publication and Open-Source Invention Disclosure - Timekeeping System

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1. DECLARATION OF AUTHORSHIP & RIGHTS

This document establishes the origin, authorship, definition, mathematical basis, and structural description of the calendrical system referred to as **IMEX — Integrated Motion of Earth eXpressed**, created by **Angel “Ime X” Adams, on behalf of Liberated Grounds**, on 05 November 2025.

This document serves as a **first disclosure** and **defensive publication** of the IMEX system. Its purpose is to establish authorship, prevent future patent monopolization by third parties, and make the system permanently available for use, study, and adaptation under an attribution-only open license.

The author claims conceptual and structural authorship of IMEX as an original calendrical architecture and time-distribution model. No rights are claimed to restrict use; rights are retained only to preserve correct attribution.

2. FIELD OF THE INVENTION (TIMEKEEPING & ASTROLOGICAL SYSTEMS)

This invention pertains to the design, structure, and distribution logic of calendrical systems, specifically those intended to reconcile the difference between the 360-degree idealized year and the astronomically observed tropical year of 365.2422 days. It introduces a distributed-surplus mathematical model that aligns corrective time not to arbitrary civil dates, but to the Earth’s actual astronomical hinge points.

3. BACKGROUND & PRIOR CALENDRICAL SYSTEMS

All dominant historical and modern calendars share the same structural flaw: the mathematical surplus between the idealized 360-day year and the 365.2422-day solar year is corrected **in one clustered segment**, usually at the end of the year, rather than being distributed across the cycle.

Examples include:

- Egyptian Calendar — 5 epagomenal days added at year end
- Mayan Haab — Wayeb 5-day period
- Ethiopian Pagume — 5 or 6 added days
- Gregorian Calendar — leap day every 4 years
- 13-Moon Calendar — single “Day Out of Time”
- Republican Calendar — 5 or 6 Sansculottides days

In all known cases, **the correction is accumulated, not distributed**, and is aligned to human civil grids, not astronomical events.

No existing system distributes the solar surplus across multiple hinge points of the Earth-Sun cycle. No system incorporates the fractional 0.2422 remainder as structured temporal space rather than numerical error.

IMEX is the first and only timekeeping system to:

1. **Distribute** the 5.2422-day solar surplus across four astronomical hinge points instead of grouping it into a single end-of-year block.
2. **Treat the fractional remainder (0.2422)** as a defined temporal interval rather than a rounding defect.
3. **Anchor corrective time to equinoxes and solstices**, rather than to civil, religious, or political date grids.
4. **Restore continuity between mathematical time and planetary motion** without modifying civil calendar structures.
5. Function as a **calendrical overlay system**, interoperable with Gregorian and ISO time, while remaining astronomically exact.

Accordingly, IMEX constitutes a **previously undocumented calendrical architecture** and establishes a new category of timekeeping system: a *distributed-surplus astronomical calendar*.

4. SUMMARY OF THE IMEX SYSTEM

IMEX is a timekeeping structure that distributes the 5.2422-day solar surplus across **four astronomical hinge points**:

1. Vernal (Spring) Equinox
2. Summer Solstice
3. Autumnal Equinox
4. Winter (Fall) Solstice

Each surplus interval ("portal") consists of: **1 full day + 0.31055 fractional day**

Where: 4 × (1.31055) ≈ 5.2422 days matching the tropical year remainder.

Unlike grouped epagomenal systems, IMEX preserves temporal continuity while restoring alignment between civil time measurement and Earth motion.

IMEX Hinge Points & Annual Recurrence

IMEX identifies four fixed astronomical events that occur every year and serve as the structural anchors of the distributed-surplus system:

Hinge Point	Astronomical Event	Typical Gregorian Range	Portal Function
Vernal (Spring) Equinox	Sun at 0° Aries	**March 19–21**	Initiation Portal
Summer Solstice	Sun at max North	**June 20–22**	Expansion Portal
Autumnal (Fall) Equinox	Sun at 0° Libra	**September 21–24**	Rebalancing Portal
Winter Solstice	Sun at max South	**December 20–23**	Contraction Portal

5. DEFINITIONS & TERMINOLOGY

Tropical Year: 365.2422 days — Earth-Sun orbital reality
Idealized Circle Year: 360 days — geometric referent
Surplus / Remainder: 5.2422 days between 360 and 365.2422
Portal: A distributed surplus interval centered on an astronomical hinge point
Hinge Point: Equinox or solstice, defined by solar declination
Fractional Day: 0.31055 day = 7h 27m 11s (rounded)
Distributed Correction: Mathematical surplus divided across 4 events

6. MATHEMATICAL BASIS & SURPLUS DISTRIBUTION

Base cycle:

360-day idealized year
+ 5.2422-day astronomical surplus
= 365.2422-day tropical year

Distributed Correction:

5.2422 ÷ 4 = 1.31055
= 1 full day + 0.31055 fractional day per portal

Fractional Duration:

0.31055 day × 24h = 7.4532h
≈ 7h 27m 11s

IMEX therefore uses **four 31h 27m windows** centered on the four solar hinge points, rather than a single 5-day cluster.

7. NOVELTY CLAIM (LEGAL CORE)

The novelty of IMEX consists of the following structural features, none of which exist in any prior calendrical system:

1. Surplus time is **distributed**, not accumulated.

2. Distribution is based on **astronomical hinge points**, not arbitrary months.

3. Fractional remainder is preserved as **structured temporal space**, not discarded or rounded.

4. The model can be implemented without modifying civil date systems.

5. The system functions as a **calendrical overlay**, not a replacement.

Therefore, IMEX constitutes a new calendrical architecture and a new method of time distribution.

8. SCOPE OF APPLICATION

IMEX may be applied to:

- Astronomical and agricultural timekeeping
- Decentralized or sovereign calendar systems
- Cultural, ritual, or ecological observances
- Software, almanacs, clocking systems, and metadata standards
- Education, scientific models, and civil alternative time formats

IMEX is structurally interoperable with Gregorian, Julian, and ISO time systems.

9. RIGHTS & LICENSING FRAMEWORK

IMEX is released under an **Attribution-Only Open Source License**.

Use, study, reproduction, modification, and redistribution are permitted with the single condition that the origin is cited as:

> IMEX, v1.0, 2025 — Angel “Ime X” Adams, on behalf of Liberated Grounds.

No commercial restriction is imposed, but authorship cannot be removed, obscured, or reassigned.

This document is a **defensive publication** preventing patent or ownership claims by third parties.

10. SIGNATURE & VERSION PANEL

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Author/Originator Signature: Ime X (Nov 7, 2025 01:03:45 CST)

Steward Name: Angel “Ime X” Adams, on behalf of Liberated Grounds
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Liberated Grounds is the stewarding entity of IMEX and its open-source release.

11. Document Status & Version Control

Field	Entry
Document Title	IMEX — Integrated Motion of Earth eXpressed
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Author / Originator	Angel “Ime X” Adams, on behalf of Liberated Grounds
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Version Notes:

- v1.0 establishes the IMEX system, terminology, surplus-distribution model, and novelty claim.
- Future revisions may expand appendices, diagrams, or implementation notes without altering the signed body of v1.0.
- All versions are cumulative, but v1.0 remains the authoritative first-disclosure document for prior-art purposes.

Appendix A — IMEX Astronomical Glossary & Hinge-Point Framework

Core Astronomical Terms

Vernal (Spring) Equinox
The moment each year when the Sun crosses the celestial equator moving northward, producing equal day and night. Marks the astronomical beginning of Spring in the Northern Hemisphere.

Summer Solstice
The point at which the Sun reaches its maximum northern position. Longest day and shortest night of the year. Marks the beginning of astronomical Summer.

Autumnal (Fall) Equinox
The moment the Sun crosses the celestial equator moving southward. Equal day and night again. Marks the beginning of astronomical Autumn.

Winter Solstice
The point at which the Sun reaches its maximum southern position. Shortest day and longest night of the year. Marks the beginning of astronomical Winter.

Solar Surplus
The 5.2422-day difference between the idealized 360° orbital model and the actual sidereal solar year of 365.2422 days.

Distributed-Surplus Timekeeping
A calendrical system in which surplus time is **allocated across multiple astronomical events** rather than stored and corrected at year-end (e.g., leap day).

IMEX Portal Day(s)
A defined temporal interval at each hinge point where a proportional share of the 5.2422-day surplus is absorbed. Not treated as an error — treated as intentional temporal space.

Portal Interval vs. Calendar Day *(IMEX Portal day-specific clarity)*
A portal interval may span fractional or multi-day duration and does not have to equal a 24-hour civil day. IMEX distinguishes between *measured time* and *experienced time*.

Sidereal Year *(Scientific term)*
The actual orbital period of Earth around the Sun: 365.25636 days. Basis for the IMEX surplus calculation.

Appendix B — IMEX Portal Day Allocation (Surplus Distribution Model)

IMEX does not cluster all 5.2422 days at the end of the year. It distributes them as follows:

Portal	Surplus Portion	Typical Duration	Symbolic Phase
Vernal Equinox	~1.31 days	1–2 days	Birth / Reset
Summer Solstice	~1.31 days	1–2 days	Expansion / Peak
Autumnal Equinox	~1.31 days	1–2 days	Return / Balance
Winter Solstice	~1.31 days	1–2 days	Rest / Renewal
Remainder	**0.2422-day drift factor**	absorbed cyclically	Keeps IMEX self-correcting

Total ≈ **5.2422 days per year**
→ evenly distributed instead of accumulated.

Actual dates shift slightly each year due to the 0.2422 remainder.